

42-079-00014

COMMONWEALTH OF PENNSYLVANIA  
Department of Environmental Protection  
June 6, 2008

**SUBJECT:** Source Test Observation  
UGI Development Company  
Hunlock Creek Power Station  
Hunlock Township, Luzerne County  
Boiler No. 6, Source ID 031  
CAM Plan Testing  
Title V Permit No. 40-00005

**TO:** Norman Frederick, with attachments  
Chief, Facilities Section  
Northeast Regional Office

**FROM:** Darren T. Lauer, Air Quality Specialist *D.T.L.*  
Source Testing Section  
Division of Source Testing and Monitoring

**THROUGH:** Gregory D. Parrish, Chief, *gdp*  
Division of Source Testing and Monitoring

Richard J. Begley, Chief, *RJB*  
Source Testing Section  
Division of Source Testing and Monitoring

On May 1 of 2008, I was present to observe a portion of the CAM Plan testing performed for boiler no. 6. The purpose of the testing is to attempt to establish a correlation between particulate matter and opacity data for the boiler for the CAM plan as required at the time of the Title V operating permit renewal. An in-stack inertial microbalance TEOM 7,000 continuous particulate monitor was used to determine filterable particulate matter (FPM) emissions using ASTM Method D 6831-05a. Visible emissions (VE) were determined using the plant's certified continuous opacity monitor (COM). Catalyst Air Management, Inc. contracted Clean Air, Inc. (Clean Air) to perform the TEOM testing. Jeff Ferguson of Catalyst was responsible for test data organization and the overall project. Jason McKeever of Clean Air was responsible for coordinating operation of the TEOM 7000 equipment and led a crew of two Clean Air personnel. Jeff Steeber, Environmental Manager, representing UGI Development Company was present during the observation and provided general oversight of the test program including escorting Department observers while onsite.

UGI Hunlock Creek Power Station operates a 636.5 MMBtu/hr Foster Wheeler boiler No. 6 used to produce steam to power a 50 megawatt (MW) electric generator. The boiler is capable of firing anthracite and bituminous coals, petroleum coke, no. 2 fuel oil, or synthetic fuel. Emissions from the

boiler are controlled by two Research Cottrell, Inc. electrostatic precipitators (ESP) designated as ESP No. 1 & 2. The effluent is discharged to the atmosphere by a 120-inch diameter exhaust stack.

During testing, process data was monitored in 1-minute intervals and was recorded about every 15 minutes. The data included pressure drops for the ESP's, operating load (MW), & steam produced. The boiler fired a mixture of pulverized bituminous and anthracite coals and was operated using the recently installed ECOBIK™ combustion air treatment system. According to the test contractors, the clock systems for the boiler control panel and the TEOM 7000 monitor unit were not synchronized at the start of testing. The issue was apparently unresolved prior to the end of testing. Please note that test times and any time-stamped data from the boiler control panel in the test report may be behind by one hour. During testing boiler emissions were monitored during high, mid, & low boiler load levels, in that order, and during the transition periods between each load. Boiler operating loads of 38.4, 28.0, & 25 MW were noted at 11:30 AM, 1:35 PM, & 3:00 PM, respectively.

FPM emission sampling was performed on a permanent platform about 200-feet above grade at one of four installed stack sample ports. Visible emissions were continuously measured using the recently certified opacity measurement unit affixed to the stack at approximately the same stack height and proximity as the single sample port used for the TEOM sampling. Jeff Steeber and Jeff Ferguson described the cyclonic flow check results and procedures used. The checks were performed at low, mid, & high operating levels during the relative accuracy testing audit (RATA) testing completed on 4/30/08. Based upon the reported descriptions of the cyclonic flow checks, they appear to be acceptable in accordance with the Department approved protocol review letter and addendum. However, the acceptability of the results is dependant upon review of the test report.

Sampling with the TEOM 7000 was performed at a single point representing the average stack velocity. TOEM sampling was performed at this point for about 60 minutes at each boiler operating load level, about 6 hours overall. All equipment associated with the TEOM 7000 unit appeared to be in good working order and was reported to have been inspected and calibrated just prior to the test program.

The following tests were performed while I was onsite:

Test	Run 1 *	Run 2 *	Run 3 *
FPM (TEOM 7000)	9:00 to 10:00	11:00 to 12:00	14:00 to 15:00
Opacity (COM Monitor)	9:00 to 10:00	11:00 to 12:00	14:00 to 15:00

\* TEOM sampling was continuous; the times shown represent the approximate periods the boiler was operated at each load, as described above.

The testing observed appeared to be in accordance with the methods proposed in the test protocol and the overall quality of the testing observed appeared to be acceptable.

COM data for opacity, flow, & CO<sub>2</sub> and raw TEOM output data are included as an attachment.

Cc: Stack Test File (RED) –CAM Plan Testing, UGI Development Company (formerly  
Hunlock Creek Energy Ventures), Hunlock Creek Power Station, Hunlock  
Township, Luzerne County, with attachments  
Sean Robbins, Northeast Regional Office  
AIMS/AKB  
EPA/AKB  
Reading File, Source Testing Section

